

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1-24. (Canceled)

25. (Currently Amended) A digital video signal processing apparatus for modifying an amplitude level of said digital video signal according to a non-linear curve comprising:

low pass filter means to which said digital video signal is supplied to produce a filtered digital video signal;

coefficient generating means for generating a multiplying coefficient and an adding coefficient from a respective linear expression of one of line segments of ~~said filtered digital video signal~~ the non-linear curve, each of said line segments being expressed by dividing said non-linear curve into a plurality of sections and replacing each of said sections with a respective line segment which can be expressed as a linear expression to form a succession of line segments;

multiplying means for multiplying said amplitude level of said digital video signal by said multiplying coefficient; and

adding means for adding an output of said multiplying means ~~for multiplying~~ and said adding coefficient[[]].

wherein the filtered digital video signal that has a frequency higher than a predetermined frequency is attenuated in the low pass filter means to have an amplitude smaller than a deviation between two successive sampling points on the non-linear curve.

26. (Currently Amended) The digital video signal processing apparatus of claim 25, wherein said coefficient generating means ~~for generating the multiplying and adding coefficients~~ includes:

means for detecting an amplitude level of said filtered digital video signal;

means for selecting said one of the line segments corresponding to the detected amplitude level; and

means for outputting said multiplying coefficient and said adding coefficient of the linear expression of said one of said line segments.

27. (Previously Presented) The digital video signal processing apparatus of claim 25, wherein said non-linear curve represents a gamma correction function.

28. (Previously Presented) The digital video signal processing apparatus of claim 25, further comprising zero insertion means for up-converting the frequency of said digital video signal and thereby effectively increasing the sampling rate of said digital video signal.

29. (Currently Amended) A digital video signal processing apparatus for modifying an amplitude level of said digital video signal according to a non-linear curve comprising:

a low pass filter to which said digital video signal is supplied to produce a filtered digital video signal;

a generator for generating a multiplying coefficient and an adding coefficient from a respective linear expression of one of line segments of the non-linear curve~~said filtered digital video signal~~, each of said line segments being expressed by dividing said non-linear curve into a plurality of sections and replacing each of said sections with a respective line segment which can be expressed as a linear expression to form a succession of line segments;

a multiplier for multiplying said amplitude level of said digital video signal by said multiplying coefficient; and

an adder for adding an output of said ~~means for multiplying multiplier~~ and said adding coefficient[[]].

wherein the filtered digital video signal that has a frequency higher than a predetermined frequency is attenuated in the low pass filter to have an amplitude smaller than a deviation between two successive sampling points on the non-linear curve.

30. (Previously Presented) The digital video signal processing apparatus of claim 29, wherein said generator includes:

a detector for detecting an amplitude level of said filtered digital video signal;

a selector for selecting said one of the line segments corresponding to the detected amplitude level; and

an output for outputting said multiplying coefficient and said adding coefficient of the linear expression of said one of said line segments.

31. (Previously Presented) The digital video signal processing apparatus of claim 29, wherein said non-linear curve represents a gamma correction function.

32. (Previously Presented) The digital video signal processing apparatus of claim 29, further comprising a zero inserter for up-converting the frequency of said digital video signal and thereby effectively increasing the sampling rate of said digital video signal.

33. (Currently Amended) A digital video signal processing method for modifying an amplitude level of said digital video signal according to a non-linear curve, said method comprising the steps of:

low pass filtering said digital video signal to produce a filtered digital video signal;
generating a multiplying coefficient and an adding coefficient from a respective linear expression of one of line segments of the non-linear curve~~said filtered digital video signal~~, each of said line segments being expressed by dividing said non-linear curve into a plurality of sections and replacing each of said sections with a respective line segment which can be expressed as a linear expression to form a succession of line segments;

multiplying said amplitude level of said digital video signal by said multiplying coefficient; and

adding an output of ~~said means for multiplying said multiplying step~~ and said adding coefficient~~[[.]]~~.

wherein the filtered digital video signal that has a frequency higher than a predetermined frequency is attenuated in the low pass filter step to have an amplitude smaller than a deviation between two successive sampling points on the non-linear curve.

34. (Previously Presented) The digital video signal processing method of claim 33, wherein said step of generating the multiplying and adding coefficients includes the steps of:

- detecting an amplitude level of said filtered digital video signal;
- selecting said one of the line segments corresponding to the detected amplitude level; and
- outputting said multiplying coefficient and said adding coefficient of the linear expression of said one of said line segments.

35. (Previously Presented) The digital video signal processing method of claim 33, wherein said non-linear curve represents a gamma correction function.

36. (Previously Presented) The digital video signal processing method of claim 33, further comprising the step of up-converting the frequency of said digital video signal and thereby effectively increasing the sampling rate of said digital video signal.